IN THE DRAWINGS

The attached sheets of drawings include changes to Fig. 7 and Fig. 12. The sheet, which includes Fig. 7 and the sheet which includes Fig. 12, replace the original sheets including Fig. 7 and Fig. 12.

Attachment: Replacement Sheets

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-14 remain active in this case, Claims 1, 5, 8, and 12 having been amended by the present amendment.

In the outstanding Official Action, the drawings were objected to as including informalities requiring correction. The specification was objected to as not referencing related U.S patent application 10/387,580. Claims 1-14 were rejected under 35 USC §103(a) as unpatentable over U.S. patent 6,044,341 to Takahashi in view of U.S. patent 5,076,395 to Arslan et al., hereinafter called "Arslan".

In response to the objection to the drawings, the drawings are presently amended to correct the informalities noted.

In response to the objection to the specification, despite the fact that there is no requirement to list related pending applications in the specification, in the spirit of cooperation, the specification has presently been amended to refer to related U.S patent application 10/387,580.

In light of the outstanding ground for rejection, Claims 1-14 the claims have been amended to clarify the claimed invention and thereby more clearly patentably define over the cited prior art. To that end, according to a first aspect of Applicants' invention , Claim 1 has been amended to clarify that suppressing noise components contained in an input speech signal is implemented by, *inter alia*, "obtaining a speech spectrum by clipping the subtraction spectrum, the subtraction spectrum being partially substituted by a specific value with respect to a portion having a value smaller than the specific value." Similar changes have been made to Claim 8 Support for this feature is provided, e.g., in the specification at page 12 line 21 to

page 13 line 5, etc. According to such method, it is possible to sufficiently suppress noise components.

A second aspect of Applicants' invention is accentuated in amended Claims 5 and 12. Amended Claim 5 thus sets forth a method in which noise components contained in an input speech signal are suppressed, including, *inter alia*, the steps of "calculating a spectral ratio between a low-frequency range and a high frequency range to obtain a spectral slope of the estimated noise spectrum, and calculating a spectral subtraction coefficient using the spectral ratio." Similar changes have been made to Claim 12. Support for the amendments to Claims 5 and 12 is found, e.g., in the original specification at page 20 line 7 to page 21 line 4, etc. No new matter has been added.

Accordingly, by virtue of the claimed invention, it is possible to resolve the problem that the estimated noise spectrum is excessively subtracted from the input spectrum and correct noise suppression is disturbed.

It is respectfully submitted that neither Takahashi nor Arslan taken singly or in combination, teach the claimed invention.

The outstanding Office Action relies on col. 11, lines 44-62 of Takahashi as disclosing obtaining a speech spectrum by clipping the subtraction spectrum. However, Takahashi fails to disclose, "obtaining a speech spectrum by clipping the subtraction spectrum, the subtraction spectrum being partially substituted by a specific value with respect to a portion having a value smaller than the specific value." According to Takahashi, if the counted number mn of the frequency components whose amplitudes are negative is equal or more than a predetermined value, the subtraction coefficient SC for the whole spectrum is lowered in a lump. Consequently, with respect to part of the spectrum where amplitudes are

not negative, noises are not properly subtracted, with the result that noise components are not sufficiently suppressed, as compared to the claimed invention.

Also, the outstanding Office Action relies on the Arslan Fig. 3 disclosure and the Arslan description at col. 8, lines 14-16 as disclosing a method of correcting the speech spectrum by smoothing in at least one of frequency and time domain. However, Arslan fails to disclose executing the smoothing process after the above-described clipping.

The outstanding Office Action relies on Takahashi disclosure in Fig. 5 of step S9, and the description at col. 8, lines 55-60 of Takahashi as disclosing obtaining indirectly a spectral slope of the estimated noise spectrum. However, Takahashi fails to disclose, "calculating a spectral ratio between a low-frequency range and a high frequency range to obtain a spectral slope of the estimated noise spectrum, and calculating a spectral subtraction coefficient using the spectral ratio." Takahashi merely discloses calculating an average amplitude spectrum and setting the average amplitude spectrum as an estimated noise spectrum. Applicants respectfully submit that the technique disclosed by Takahashi cannot resolve the problem that the estimated noise spectrum is excessively subtracted from the input spectrum and correct noise suppression is disturbed.

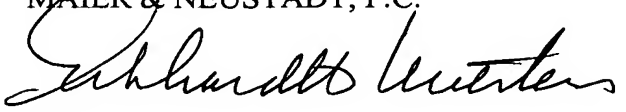
Accordingly, in view of the noted deficiencies in Takahashi and Arslan, it is respectfully submitted that the outstanding ground for rejection has been overcome and that the amended claims patentably define over the cited prior art.

Accordingly, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding, and the present application is believed to be

in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

I:\ATTY\EHK\21's\218844\218844US-AMENDMENT-2.19.06.DOC